

MURPHY MODEL 113

TRADE NAME	Murphy, Model 113					
SUPPLIER	G. C. Murphy Co., 531 5th Ave., McKeesport, Pa.					
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna					
TUBES (FIVE)	Types 12SA7GT Converter, 12SK7GT IF Amplifier, 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.					
POWER SUPPLY	117 Volts AC-DC Rating .230 Amp. @ 117V. AC					
TUNING RANGE—BROADCAST	530KC - 1700KC		SHORT WAVE			
ALIGNMENT INSTRUCTIONS						
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD	High side to ant. stator section of tuning gang. Low side to B-.	455KC	Point of no interfering signal.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
200MMFD	High side to ant. (blue) lead. Low side to B-.	1500KC	1500KC	"	A5	Adjust for maximum output.
"	"	"	"	"	"	Adjust for maximum output. Check sensitivity at 600KC and repeat adjustments A5,A6 if necessary.

Volume control at maximum volume and output from signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		MURPHY PART No.	STANDARD REPLACEMENT		
1	Converter	12SA7GT	12SA7GT	8AD	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA					IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	MURPHY PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	
6(A)	20	150		TN129	M-2x20-150	TA-220	PRS150-20-20	Filter - Red
(B)	20	150						Filter - Green
(C)	20	150						Filter - Blue
7	.05	400	TP426		S-4-05	TC-15	484-.05	Line Filter
8(A)	.02	400	TP423		S-4-02	TC-12	484-.02	50L6 Plate Bypass*
(B)	.005	400	TP408		S-6-005	TC-25	484-.005	" " " "†
9	.01	400	TP421		S-4-01	TC-11	484-.01	Audio Coupling
10	.0025	400	TP406		S-6-003	TC-23	484-.003	" " " "†
11	.05	400	TP426		S-4-05	TC-15	484-.05	AVC Filter
12	.1	200	TP428		S-4-1	TC-1	484-.1	Line Isolating
13(A)	.01	400	TP421		S-4-01	TC-11	484-.01	Ant. Coupling*
(B)	.005	400	TP408		S-6-005	TC-25	484-.005	" " " "†
*Used in later models †Used in initial production								

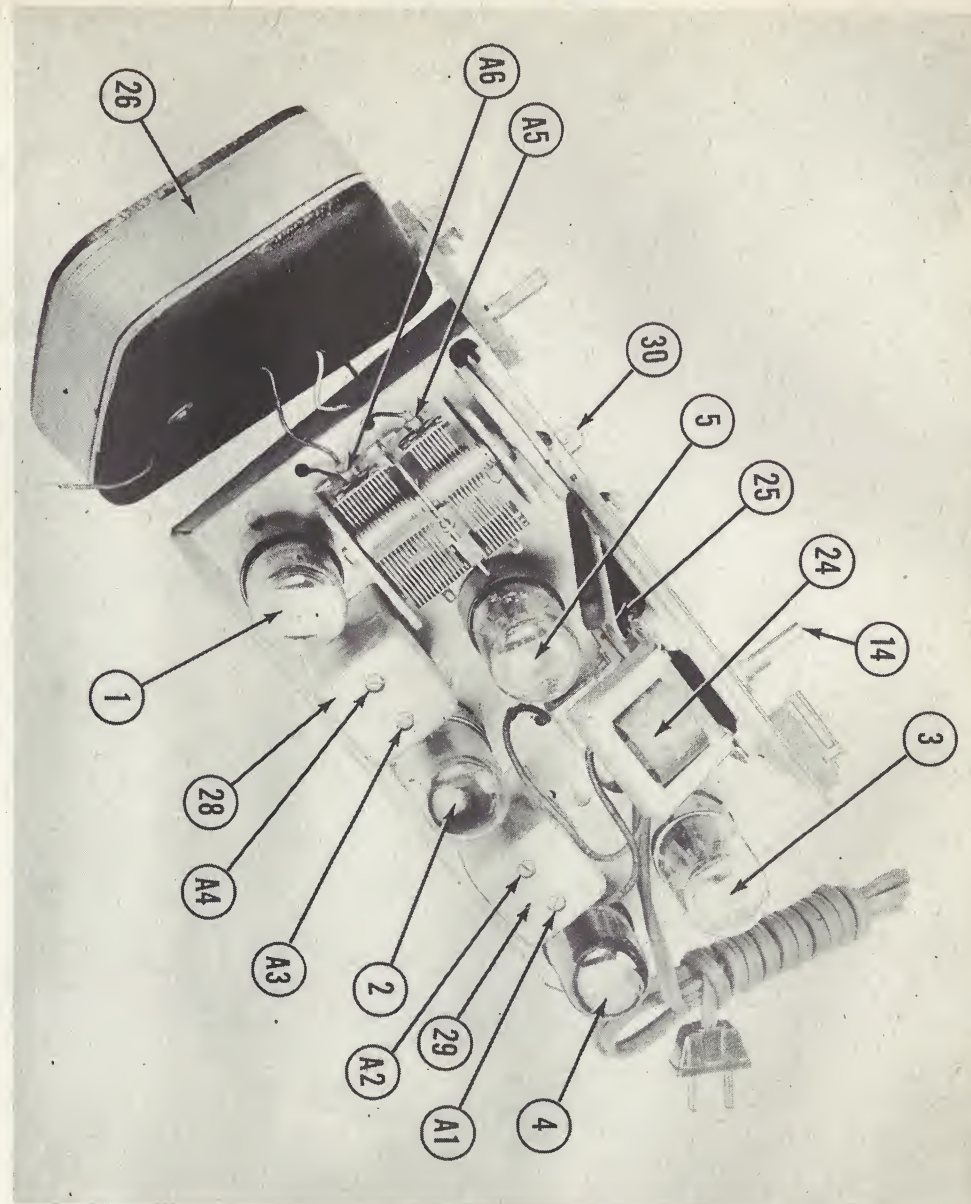
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESIST-ANCE	WATTS	MURPHY PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
14(A)	500K Ω	1	5348	FR48	D13-133	M-60-Z	See Installation Note 2
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 14A per instructions
(C)	Switch		"	M26	41	SW-A	"
Installation Note 2 - When using Mallory, IRC or Clarostat replacements it will be necessary to install a 47K Ω resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (control viewed from shaft side, terminals down)							

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	MURPHY PART No.	IRC PART No.	
15	22K Ω		BTS-22K		Red-Red-Or. Osc. Grid
16	2.2 Meg.		BTS-2.2 Meg.		Red-Red-Grn. AVC Network
17	10 Meg.		BTS-10 Meg.		Br.-Blk.-Blue 1st AF Grid
18	220K Ω		BTS-220K		Red-Red-Yl. 1st AF Plate Load
19	470K Ω		BTS-470K		Yl.-Vl.-Yl. Output Grid
20	150 Ω		BW-1-150		Br.-Grn.-Br. Output Cathode
21	1500 Ω		BW-1-1500		Br.-Grn.-Red Filter
22	150 Ω		BW-1-150		Br.-Grn.-Br. " "
23	22 Ω		BW-1-22		Red-Red-Blk. Rectifier Ballast
24	3300 Ω		BTS-3300		Or.-Or.-Red Audio Feedback-See Note 1
25	15 Ω		BW-1-15		Br.-Grn.-Blk. Surge Limiting-See Note 1
26	220K Ω		BTS-220K		Red-Red-Yl. Line Isolating-See Note 1
Note 1 - Not used in all models.					

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MURPHY PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
27	2350Ω	3.2Ω	179Ω	.6Ω	Part of A-SP.1	A-3876	T-13839	8775	See Note 3
Note 3 - When using replacement A-3876 one new mounting hole is required.									

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			MURPHY PART No.	JENSEN PART No.	UTAH PART No.	
	28	FIELD. FM	VC IMP. 3.2Ω	A-SP.1	ST-1051†	
	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY	REPLACEABLE	USE COMPLETE	TE SPEAKER UNIT.

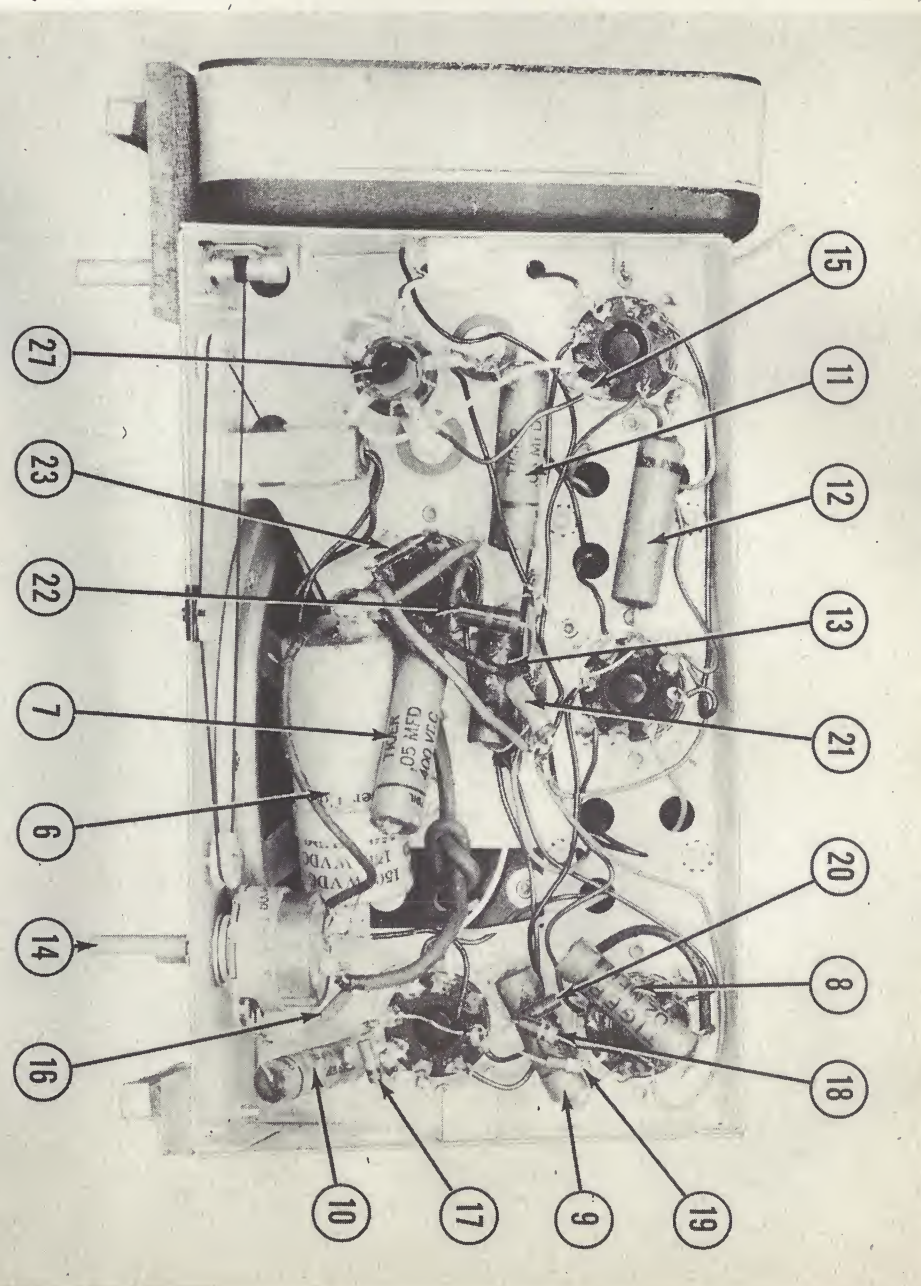
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
				MURPHY	MEISSNER	
		PRI.	SEC.	PART No.	PART No.	
29	Loop Ant.	.2Ω	1.2Ω	A-LP-1	14-1040†	†Install 50MFD between osc. grid and Lug #1.
30	Osc.	.5Ω	6Ω	A-LC-1	16-6658	
31	Input IF	21Ω	21Ω	A-LF-1	16-6658	†Install 220MFD across volume control.
32	Output IF	16Ω	16Ω	A-LF-3	16-3660#	

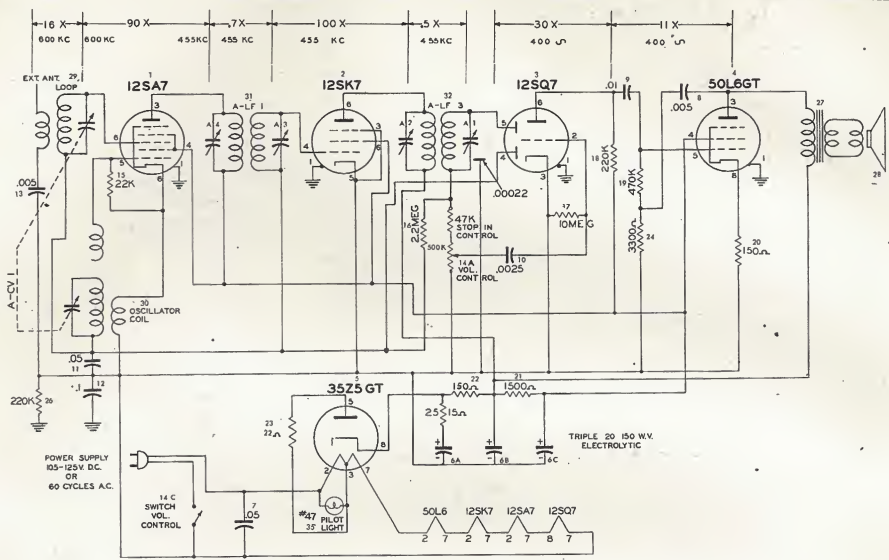
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					MURPHY PART No.		
33	Bayonet	6-8	.15	Brown			Type 47

CHASSIS—BOTTOM VIEW

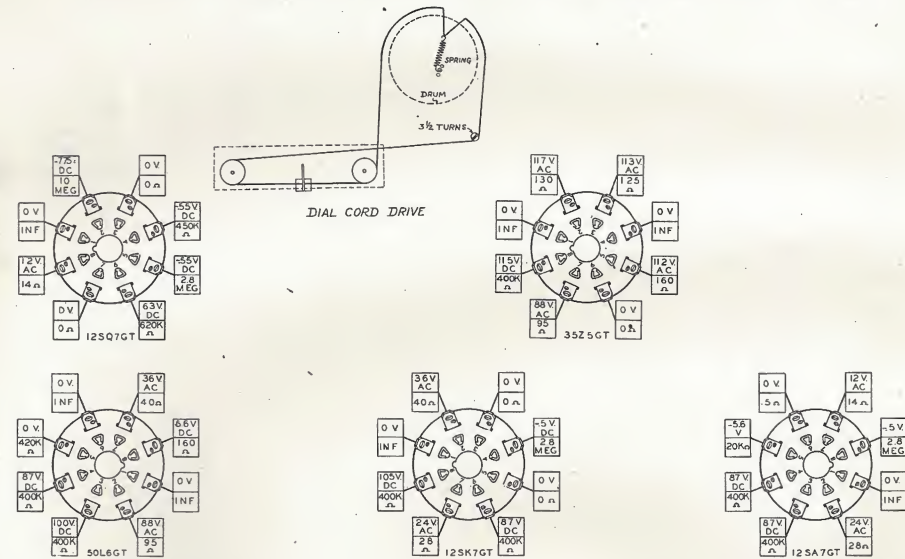


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



- 1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.
- 2 - Socket connections are shown as bottom views.
- 3 - Measured values are from socket pin to common negative.
- 4 - Line voltage maintained at 117 volts for voltage readings.
- 5 - Nominal tolerance on component values makes possible a variation of $\pm 10\%$ in voltage and resistance readings.
- 6 - Volume control at maximum, no signal applied for voltage measurements.

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